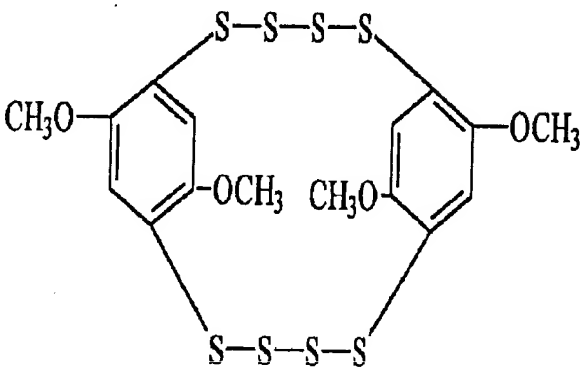
What is claimed is:

1. A cathode active material comprising cyclic bis (2,5-bis-dithio-1,4-dimethoxybenzene) represented by formula 1:



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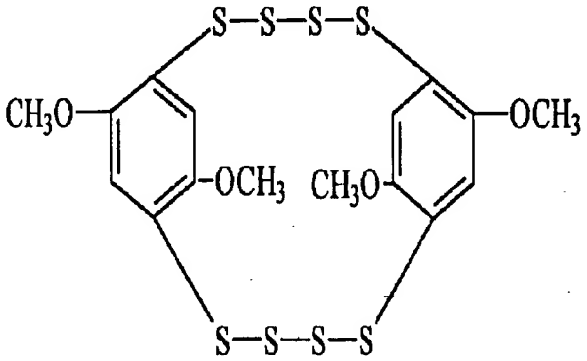
2. A lithium battery comprising:

a cathode having a cathode active material layer comprising cyclic bis (2,5-bis-dithio-1,4-dimethoxybenzene) represented by formula 1, a conductive agent and a binder;



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an anode having an anode layer comprising lithium metal or a lithium alloy; and

a separator interposed between the cathode and the anode.

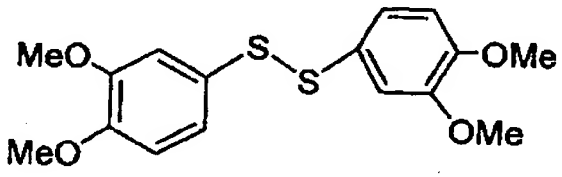
3. The lithium battery according to claim 2, wherein the binder comprises at least one selected from the group consisting of polyethylene oxide (PEO), polyacrylonitrile (PAN), polymethyl methacrylate (PMMA), polyvinylidene fluoride (PVDF), acrylonitrile-methyl methacrylate-styrene terpolymer (AMS), vinylidene

fluoride-hexafluoropropylene (VDF-HFP) copolymer, polyvinyl chloride (PVD) and cellulose.

4. The lithium battery according to claim 2, wherein the conductive agent comprises at least one selected from the group consisting of carbon black, acetylene black and vapor growth carbon fiber (VGCF).

5. The lithium battery according to claim 2, wherein the separator comprises at least one selected from the group consisting of polyethylene oxide (PEO), polyacrylonitrile (PAN), polymethyl methacrylate (PMMA), polyvinylidene fluoride (PVDF), acrylonitrile-methylmethacrylate-styrene terpolymer (AMS), vinylidenefluoride-hexafluoropropylene (PVDF-HFP) copolymer, polyvinyl chloride (PVD) and cellulose.

6. An organopolysulfide represented by formula 2:



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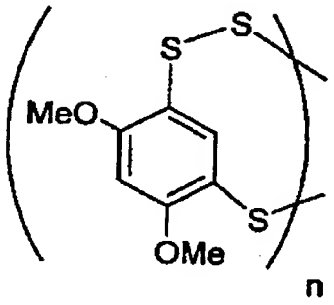
7. The organopolysulfide according to claim 6, wherein the synthesis formula of the organosulfide represented by formula 2 is $C_{16}H_{18}O_4S_2$.

8. The organopolysulfide according to claim 6, wherein the organosulfide represented by formula 2 is produced by a reaction between 1,2-dimethoxybenzene and sulfur monochloride.

9. An organopolysulfide represented by formula 3:



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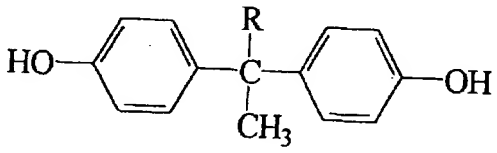
wherein n is an integer from 2 to 10.

10. The organopolysulfide according to claim 9, wherein the synthesis formula of the organosulfide represented by formula 3 is $(C_8H_8O_2S_3)_n$, n being an integer from 2 to 10.

11. The organopolysulfide according to claim 9, wherein the organosulfide represented by formula 3 is produced by a reaction between 1,3-dimethoxybenzene and sulfur monochloride.

12. An organopolysulfide which is producecd by a reaction between sulfur monochloride and a compound represented by formula 4:



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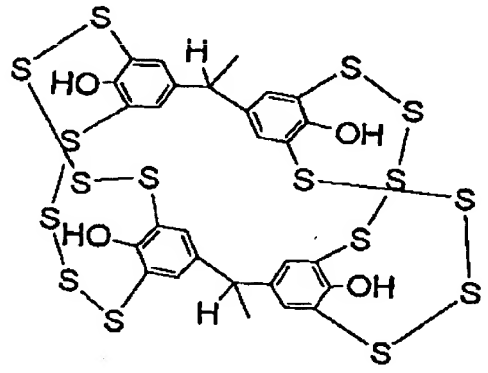
wherein R is a hydrogen atom or a methyl group.

13. The organopolysulfide according to claim 12, wherein the synthesis formula of a material produced by a reaction between sulfur monochloride and a compound represented by formula 4 in which R is a hydrogen atom, is

$(C_{14}H_{10}O_2S_8)_n$, and the synthesis formula of a material produced by a reaction between sulfur monochloride and a compound represented by formula 4 in which R is a methyl group, is $(C_{14}H_{10}O_2S_8)_n$.

14. The organopolysulfide according to claim 12, wherein a material produced by a reaction between sulfur monochloride and a compound represented by formula 4 in which R is a hydrogen atom is represented by formula 5, and a material produced by a reaction between sulfur monochloride and a compound represented by formula 4 in which R is a methyl group, is represented by formula 6:



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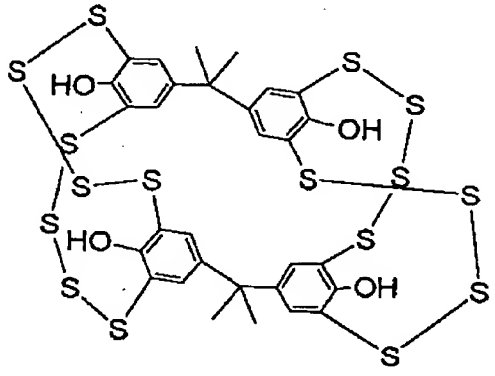

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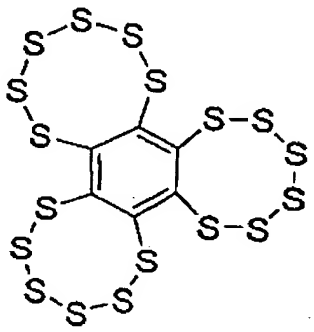
15. An organopolysulfide represented by formula 7:



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16. The organopolysulfide according to claim 15, wherein the synthesis formula of the organopolysulfide is C_6S_{18}.

17. The organpolyosulfide according to claim 15, wherein the organopolysulfide is a material produced by a reaction between sulfur and hexabromobenzene in the presence of ammonia.

18. A cathode active material comprising the organopolysulfide according to claim 6.

19. A cathode active material comprising the organopolysulfide according to claim 9.

20. A cathode active material comprising the organopolysulfide according to claim 12.

21. A cathode active material comprising the organopolysulfide according to claim 15.

22. A lithium battery comprising a cathode active material according to claim 18.

23. A lithium battery comprising a cathode active material according to claim 19.

24. A lithium battery comprising a cathode active material according to claim 20.

25. A lithium battery comprising a cathode active material according to claim 21.